

Appendix A

[57] ABSTRACT

A discovery process beginning with an in vivo screening of proteins, peptides, natural products, classical medicinal compound or other substances. The administration of compounds to the animal can be either direct or indirect, such as by the administration and expression of cDNA-containing plasmids. Since the discovery process of the invention is based on a non-preconceived hypothesis and whole organism multi-organ analysis, a compound can be selected for testing in the absence of any biological selection criteria. The resulting organism-wide pattern of the gene expression changes in the transcriptome provides an overview of the activities at the molecular and organism-wide levels. The discovery process of the invention then integrates in vivo profiling and internal and external genomic databases to elucidate the function of unknown proteins, typically within few months. The invention further relates to medical uses of fibroblast growth factor 23 (FGF-23), FGF-23 fragments, FGF- 23 C-terminal polypeptides, FGF-23 homologs and/or FGF-23 variants.